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Parental Substance Abuse and Family Reunification

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This study examines the reunification outcomes of 4 groups of children placed in foster care in Oklahoma: those referred due to parental alcohol-only abuse, those due to parental drug-only abuse, those with both alcohol and drug involvement, and those with neither alcohol nor drug involvement. Following bivariate analysis to examine group differences, survival analysis was utilized to predict reunification rates. Overall, differences in time to reunification among the 4 groups were significant. The neither alcohol nor other drug group was significantly different from the

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other 3 groups, but the alcohol-only group was different from the groups that included any drug involvement.

KEYWORDS alcohol and other drug abuse, child welfare, foster care, family reunification, substance abuse, survival analysis

In recent years, efforts to identify the prevalence of substance abuse within the child welfare population have expanded. It is frequently estimated that 60% of all families within the child welfare system are impacted by substance use, but this can vary widely depending on a multitude of factors—such as the population in the child welfare system that is being studied (e.g., in-home vs. out-of-home care, rural vs. urban setting, younger vs. older children), the type of child welfare allegation, the methods of study, and the definition of substance abuse being utilized in the determination (U.S. Department of Health & Human Services [HHS], 1999). Testa and Smith (2009) reported that along the continuum of child welfare services, the estimates of substance involvement range from 11% to 14% of all investigated cases, whereas 50% to 79% of all cases with young children in foster care placement are estimated to be substance involved.

Efforts have also been made to expand understanding regarding the link between substance abuse and child maltreatment; these are still in the early stages. This is to say that researchers and practitioners are asking, "What are the mechanisms through which substance abuse leads to child abuse and neglect?" One of the most difficult challenges in determining how parental substance abuse poses a threat to child safety lies in disentangling the multiple parental and environmental hazards that are often present in the lives of substance abusers—and determining to what extent these hazards are attributable to the presence of certain conditions rather than substance use or abuse per se. In a comprehensive review of the literature, Kim and Krall (2006) noted that research has consistently identified that environmental factors are critically important in determining the child welfare outcomes associated with prenatal cocaine exposure, and multiple studies have confirmed the importance of addressing environmental factors in both pre- and postnatal parental substance use. Testa and Smith (2009) reported that, in the Illinois waiver demonstration, only 8% of the child welfare involved families were determined to have substance abuse as a sole problem. Further, they noted that knowing more about distinctions within this population is a critically important factor in discerning the impact of substance abuse on the child welfare population—after all, to determine appropriate interventions, researchers must first conceptualize the problem with the greatest degree of understanding possible. One part of this conceptualization that is lacking is a greater awareness about how different substances of abuse impact the child welfare experience. Testa and Smith, in speculating how greater understanding might help inform child welfare practice, stated that:

> different substances may have different consequences for parenting and child safety. The ways in which a sedative, such as alcohol, impairs parenting or threatens child safety could be quite different from the ways in which a stimulant, such as methamphetamine, impairs parenting and threatens child safety. Perhaps child safety will be promoted most effectively by specifically targeted interventions for different types of substance abuse. (p. 153)

The purpose of the research described in this article is to determine (a) if children removed from their homes because of parental alcohol or other drug (AOD) abuse are at greater risk of failure to reach timely reunification with the families from which they were removed, and (b) the extent to which these reunification outcomes might be differentiated based on the type of parental substance misuse. It is hoped that this research, through the examination of specific types of substance misuse, will build on the current understanding of the role and nature of parental AOD abuse in the child welfare experience.

PREDICTORS OF REUNIFICATION

Wulczyn (2004) reported that although reunification with birth families is still the most common form of exit from foster care (and a goal whose primacy remains intact), the number of children who are exiting in this manner is declining steadily. According to the 2006 Adoption and Foster Care Analysis and Reporting System estimates, 53% of children who exited care during that year did so through reunification with parents or primary caretakers, an additional 11% exited to live with relatives, and 17% exited to adoptions (HHS, 2008).

A review of the literature finds that reunification can be impacted by a multitude of factors, many of which are interrelated. For purposes of clarification, these factors have been grouped into case, family, and child characteristics.

Case Characteristics

Length of stay in foster care is an important characteristic for many reasons. First, duration in out-of-home placement has been demonstrated to impact reunification. The likelihood that a child will be reunified with his or her family decreases the longer the child remains in care. It has been demonstrated that reunification is most successful when it occurs within the first 6 months of care (Courtney, 1994; Farmer, 1996; Goerge, 1990; Maluccio, Fein, & Davis, 1994; Wells & Guo, 1999). Second, after 3 years in care, it is equally likely that a child will be reunified as adopted. At the 4-year time

frame, the likelihood of adoption exceeds reunification as a placement outcome (Wulczyn, 2004). Third, length of stays are particularly relevant to this work in light of the fact that children of substance abusers are more likely to experience longer times in out-of-home placement—and the compatibility of the reunification timetable might be in conflict with the timetable for substance abuse recovery (Young, Gardner, & Dennis, 1998).

The presence of multiple placements of a child within a single out-of-home care episode is predictive of less timely reunification (Courtney, 1994; Farmer, 1996; Fernandez, 1999; Webster, Barth, & Needell, 2000; Wells & Guo, 1999). Fernandez (1999) utilized event history analysis on a sample of 201 foster care children in Sydney, Australia, and found that those children who had three or more placements waited 5.8 times longer to reunification than those children who had been placed only once or twice.

Type of foster care placement has also been demonstrated to have an impact on time to reunification. Children placed in kinship care return home slower than do children placed in nonkin homes and reenter care less frequently (Courtney, 1994; Gleeson & Hairston, 1999; Scannapieco & Hegar, 1995; Thomlison, Maluccio, & Abramczyk, 1996).

Visitation patterns during out-of-home care are predictive of timely reunification. Parents who participated in the recommended amount of visitation with their children while in out-of-home care were more likely to reunify with their children than those who did not (Courtney, 1994; Fraser, Walton, Lewis, Pecora, & Walton, 1996; Loar, 1998; Thomlison et al., 1996).

Additionally, factors associated with removal from the home have been demonstrated to be predictive of reunification timeliness. In one study (Fernandez, 1999), children who entered care under court supervision remained in care 7.8 times longer than those children voluntarily relinquished.

Family Characteristics

Family structure and composition might also be predictive of reunification timeliness and overall success. Children removed from two-parent households return home more quickly than those from single-parent households (Courtney, 1994; Fraser et al., 1996; Thomlison et al., 1996). Children who were returned home concurrent with the return of any siblings who were also removed fare better than those returned at different times. Additionally, reunification is most likely to be successful when the composition of children in the household remains the same at the time of reunification as it was prior to child removal (Farmer, 1996). The presence of poverty in the family (as measured through Temporary Assistance for Needy Families [TANF] or Aid to Families with Dependent Children receipt or public housing membership) reduces the reunification rates of children (Courtney, 1994; Fernandez, 1999; Festinger, 1996).

Child Characteristics

Wulczyn (2004), in a comprehensive review of family reunification patterns and trends, reported that age and race and ethnicity are important characteristics when thinking about reunification as a placement outcome. Young children (ages 1–12) most often leave foster care through reunification with parents, whereas babies (under 1) are more likely to leave foster care through adoption. Children younger than age 2 are more likely than older children to be reunified in the first 6 months of placement; as the age of the child at reunification increases, the more likely that child is to reenter placement. The impact of age appears to be minimized when children are placed in kinship care (Courtney, 1994; Farmer, 1996; Roberts, 2002; Wells & Guo, 1999).

The role of race and ethnicity in placement experience and outcomes is also noteworthy. The impact of age appears to be moderated by ethnicity of the family—reunification differences associated with age are increased if the child is African American (Wells & Guo, 1999). Wulczyn (2004) reported that Caucasian children are more likely to experience reunification and African American children are more likely to be adopted. He noted, however, that earlier works (Wulczyn, 2003) contradict this most recent finding.

Additionally, family ethnicity might influence the timing of reunification. Caucasian children reunify with their families more quickly than any other ethnic group, followed by Asian, Latino, and African American children (Courtney, 1994, 1995; Roberts, 2002; Wells & Guo, 1999).

Certain child characteristics are associated with poorer placement outcomes as well. Behavioral problems and physical disabilities, in particular, are associated with poorer outcomes (Teare, Becker-Wilson, & Larzelere, 2001; Wells & Guo, 1999). Landsverk, Davis, Ganger, Newton, and Johnson (1996) found that children with behavioral or emotional problems were half as likely to experience reunification success as children with no mental health problems.

AOD AND PERMANENCY OUTCOMES

It is somewhat surprising that, given the prevalence rates and increased attention to substance abuse within the child welfare population in recent years, more is not known about how substance abuse impacts permanency. Whereas the presence of substance abuse as a precipitating reason for entry into the child welfare system is well documented, its role from the entry point forward has not been fully evaluated. Many studies have documented the presence of substance abuse in the number of cases referred to child abuse and neglect authorities (Azzi-Lessing & Olsen, 1996; Berrick & Lawrence-Karski, 1995; Besharov & Hanson, 1994; Ellertson, 1994; National Center on Addiction and Substance Abuse at Columbia University [CASA],

1998; Pecora, Whittaker, Maluccio, Barth, & Plotnick, 2000); yet, there are a limited number of studies that have followed cases to ascertain what characteristics of AOD abuse (or treatment) impact the process of reunification and other permanency outcomes such as adoption and guardianship (CASA, 1998; Fanshel, 1975; Lewis, Giovannoni, & Leake, 1997; Smith, 2003; Walker, Zangrillo, & Smith, 1991). When comparing a sample of 559 children in foster care, Fanshel (1975) found that 70% of the children removed because of drug addiction, primarily heroin ($n = 43$), were still in placement at 5 years, compared to 44% of the group of children removed for abuse or neglect and 35% of children removed for reasons associated with maternal mental health. The closest cohort among the sample to the removal for drug addiction group was the group of children removed for abandonment reasons, of which 56% were still in placement at the 5-year time frame. Lewis et al. (1997) found that 67% of children removed for reasons of prenatal (illegal) drug exposure remained under court or child welfare authority supervision at 2 years' postreferral, compared to a comparison group of nonexposed children, of whom 58% were still under supervision. Although these statistics do not reflect reunification rates per se, "it can be assumed from the agency's perspective that as long as a child's case remained open, neither full reunification with the child's family had occurred nor had adoption or legal guardianship been finalized" (p. 82). In a survey of 915 child welfare authorities, CASA (1998) reported that 73% of respondents noted that children of AOD abusers require longer foster care stays than children of non-AOD abuse families.

Less direct evidence also suggests that children of AOD abusers will likely spend more time in foster care and be less likely to reach reunification. Research indicates that there are familial, parental, child, service delivery system, and community variables that could be affected by the presence of substance abuse, which are likely to, in turn, influence reunification outcomes. For example, family composition is a predictor of reunification: Children removed from single-parent homes have less likelihood of reunification than those from two-parent households (Fein & Staff, 1993; Harris, 1999). The majority of women who present for AOD treatment with child welfare involvement are single mothers (HHS, 1999). Socioeconomic status is also predictive of reunification success. The presence of poverty is one of the most established, consistently validated predictors of placement in foster care and lack of reunification success (Courtney, 1994, 1995; Courtney, Piliavin, & Entner-Wright, 1997; Festinger, 1996; Jones, 1998; Thomlison et al., 1996). The relationship between poverty and AOD abuse and recovery has been substantiated. The more impoverished a woman is, the less likely she is to recover (HHS, 1999; Weiner, Wallen, & Zankowski, 1990). Young et al. (1998) reported that persons with substance abuse issues are the most likely clients for "system failure" within both the child welfare and the TANF populations.

McMahon and Luthar (1998) reported that children of substance abusers have poorer developmental outcomes overall and, in addition to children with identifiable disorders, many children of substance abusers fall at the low end of the normal range on developmental outcome measures and are not identified as in need of service. Certain parenting characteristics of AOD abusers impact their ability to provide age- and development-appropriate parenting techniques and contribute to the social and behavioral difficulties their children experience. AOD-abusing parents are more likely to provide inconsistent discipline and less likely to respond to cues from their children regarding social and emotional needs (Tarter, Blackson, Martin, Loeber, & Moss, 1993).

Service delivery factors can contribute to reunification success in families with AOD abuse issues (Child Welfare League of America, 2002; Smith, 2003; Young et al., 1998). The lack of collaboration between the AOD treatment community and the child welfare system has played an important role. The workers within these service delivery systems are placed in a difficult dilemma: Client outcomes are directly affected by services received in agencies other than their own. Child welfare workers historically have received little training in assessment or treatment of substance abuse, yet they are required to evaluate client progress in recovery as part of reunification plans. Workers within child welfare agencies often have differing philosophies and values about addiction, the role of the helping professional, appropriate treatment approaches, and desired outcomes in treatment (Besharov & Hanson, 1994; Cole, Barth, Crocker, & Moss, 1996; Young & Gardner, 1998; Young et al., 1998).

Treatment responses within the addiction field might also fail to adequately tailor interventions to the individual. There is extensive literature that identifies addiction subtypes and explores process and outcome differences in addiction treatment and recovery based on these types (Babor, Dolinsky, et al., 1992; Babor, Hofmann, et al., 1992; Ball, Carroll, Babor, & Rounsaville, 1995; Ball, Jaffe, Crouse-Artus, Rounsaville, & O'Malley, 2000; Brown, Babor, Litt, & Kranzler, 1994; Carpenter & Hasin, 2001; Penick et al., 1999; Peters, 1997). This literature has demonstrated differential severity, trajectory, and outcomes for individuals based on subgroupings. Among the most widely studied typologies are Types A and B—by Babor, Hofman, et al. (1992)—which identify subtypes that are distinguished by, among other characteristics, multiple substance misuse and earlier age of onset. Type B was associated with a higher severity of consequences of AOD use and a greater frequency of social problems.

Despite the existence of research on both pharmaceutical and behavioral interventions targeted to specific drugs of abuse, "most substance users are treated in the same clinic and context" (Rounsaville, Petry, & Carroll, 2003, p. 117). Hester and Miller (1995) concurred, commenting that few differences are noted in the type of treatments available in most communities.

Regardless of an individual's pattern of use, treatment in most communities is effectively the same. The primary variables in most community treatment programs are length of stay and level of care. There are few actual differences in the types of treatment provided, other than the management of detoxification and medical aspects of addiction. The American Society of Addiction Medicine (2001) Patient Placement Criteria do consider severity of use and multiple life-functioning domains that are utilized in determining the level of treatment intensity but, once in treatment, the therapeutic approaches generally are very similar and can be classified as falling into one of the four following areas: physical methods, psychological approaches, social methods, and spiritual methods (Young et al., 1998). The similarity of approaches to treatment for AOD abuse might serve as a rationale to group all substance users together.

Although the similarity of the therapeutic approaches for the primary treatment of substance abuse might call for such groupings, our analysis of the research on case, family, and child characteristics as well as what is known about AOD abuse and permanency outcomes in the context of child welfare suggests that research should be conducted to further determine the impact of this grouping on reunification process and outcome. The purpose of the research presented in this study was to examine differential case characteristics and reunification outcomes for children removed from their homes for parental substance abuse and to further disentangle the category of "parental substance abuse" by establishing groupings based on type of drug abused.

METHOD

All children placed into foster care in Oklahoma through the Oklahoma Department of Children and Family Services during the study period (January 1999–September 2003) were included in the sample ($N = 28{,}978$). All data are from the state's administrative database used for tracking children in the child welfare system and for meeting federal reporting requirements. A complete description of these data (including guidelines for treatment of missing data) can be found at the Web site for the National Data Archive for Child Abuse and Neglect (http://www.ndacan.cornell.edu/index.html). For purposes of between-group comparisons, the researchers stratified this sample into four categories based on parental alcohol and other drug involvement as a reason for removal of the child from the home: those with alcohol-only involvement, those with drug-only involvement, those with both alcohol and drug involvement, and those with neither alcohol nor drug involvement. Comparisons were first made across the four

groups with respect to case, child, and family characteristics. The selection of variables for comparison was guided by the literature review and the limitations of the administrative data set.

Reunification rates were compared for these four groups using survival analysis. Survival analysis is appropriate in studying time to an event like reunification where some cases are censored (i.e., have not yet achieved reunification).

FINDINGS

AOD and Case, Child, and Family Characteristics

Table 1 contains demographic information comparing the four cohorts. Cross-tabulations were used to examine differences between the cohorts with respect to gender, ethnicity, presence of child medical or clinical diagnosis, removal reason, economic conditions of the family, age at removal, and family structure. A one-way analysis of variance was used to compare group differences with respect to number of different reasons for removal (other than parent alcohol or drug abuse), number of prior removals, and age of the child at removal. Results are shown in Table 1, where the magnitude of relationships between variables is assessed using two statistical criteria. The first criterion, most familiar to readers, is the p value. This statistic indicates the probability that observed differences between group means or percentages could have been generated by chance alone. To achieve statistical significance, the probability that observed differences are due to chance alone must be less than or equal to a predetermined percentage, typically $p \leq .05$. When multiple tests are performed, the researcher should adjust by lowering the critical value. In this case a value of $p \leq .002$ provides a conservative adjustment (.05/22). In other words, before we can conclude that a relationship is statistically significant, there must be only a .2% probability that observed differences are due to chance alone. Although very useful, this statistic is also highly sensitive to sample size. If the sample is relatively small, the likelihood of a statistically significant p value is reduced. However, if the sample is relatively large, as in this study, trivial differences between groups can achieve statistical significance.

To balance this likelihood, we introduced another statistic to measure the effect size of observed group differences. An *effect size* is a measure of the strength of a relation. When comparing mean scores across the groups defined by time to reunification, the effect size is measured by eta-squared. The analogous measure for comparing group percentages is the w statistic. Benchmarks have been provided in the literature for judging the substantive significance of effect size measures (Cohen, 1988). For eta-squared small,

TABLE 1 Sample Characteristics and Category of AOD Usage as a Removal Reason

Characteristic	Total sample[a]	Alcohol only[b]	Drug only[c]	Both AOD[d]	Neither AOD[e]	Test statistic and value	Effect size
Gender (female)	52%	52%	50%	52%	52%	$\chi^2 = 9.29$	$w = 0.017$
		−893	−3,464	−573	−10,033	$p = .158$	
Hispanic ethnicity	8%	8%	7%	7%	9%	$\chi^2 = 25.90$	$w = 0.029$
		−143	−477	−81	−1,706	$p = .000$	
African American ethnicity	20%	12%	19%	17%	21%	$\chi^2 = 96.20$	$w = 0.057$
		−200	−1,307	−185	−4,036	$p = .000$	
Native American ethnicity	24%	44%	25%	34%	22%	$\chi^2 = 455.70$	$w = 0.125$
		−742	−1,688	−368	−4,199	$p = .000$	
Caucasian ethnicity	62%	53%	64%	57%	63%	$\chi^2 = 86.56$	$w = 0.054$
		−903	−4,384	−622	−12,030	$p = .000$	
Child medical diagnosis	7%	6%	7%	7%	8%	$\chi^2 = 12.82$	$w = 0.021$
		−98	−474	−81	−1,491	$p = .005$	
Child clinical diagnosis	13%	11%	11%	13%	15%	$\chi^2 = 78.95$	$w = 0.052$
		−182	−748	−138	−2,840	$p = .000$	
Removal for physical abuse	25%	24%	11%	22%	30%	$\chi^2 = 977.81$	$w = 0.183$
		−407	−782	−242	−5,846	$p = .000$	
Removal for abandonment	12%	12%	9%	15%	13%	$\chi^2 = 79.60$	$w = 0.052$
		−199	−605	−163	−2,417	$p = .000$	
Removal for sexual abuse	10%	5%	4%	8%	12%	$\chi^2 = 443.53$	$w = 0.123$
		−82	−276	−93	−2,355	$p = .000$	
Removal for neglect	18%	58%	50%	66%	52%	$\chi^2 = 124.37$	$w = 0.065$
		−990	−3,420	−730	−10,038	$p = .000$	
Removal for parent incarceration	10%	18%	17%	14%	6%	$\chi^2 = 918.16$	$w = 0.178$
		−307	−1,197	−158	−1,161	$p = .000$	
Removal for inadequate housing	16%	17%	23%	31%	13%	$\chi^2 = 491.03$	$w = 0.130$
		−298	−1,551	−342	−2,574	$p = .000$	
Mean number of removals categories	1.77	2.45	2.2	3.7	1.43	$F = 4179.88$	$\eta^2 = 0.302$
						$p = .000$	

Eligible for Title IV A	16%	19% −317	18% −1,232	17% −190	16% −3,037	$\chi^2 = 319.39$ $p = .000$	$w = 0.104$
Receipt of child support	22%	24% −414	26% −1,780	28% −307	21% −3,963	$\chi^2 = 358.78$ $p = .000$	$w = 0.111$
Title XIX Medicaid	70%	74% −1,273	76% −5,231	79% −872	67% −13,002	$\chi^2 = 353.49$ $p = .000$	$w = 0.110$
SSI or Social Security	7%	10% −164	6% −397	7% −78	8% −1,492	$\chi^2 = 380.40$ $p = .000$	$w = 0.114$
No assistance	21%	19% −321	26% −1,786	23% −251	20% −3,854	$\chi^2 = 372.87$ $p = .000$	$w = 0.113$
Family structure							
Married couple	29%	27% −469	25% −1,714	28% −314	31% −6,010	$\chi^2 = 364.03$ $p = .000$	$w = 0.112$
Unmarried or divorced couple	0%	17% −298	21% −1,468	21% −230	15% −2,856		
Single female	0%	45% −762	48% −3,334	47% −515	45% −8,750		
Single male	0%	9% −155	4% −250	3% −29	6% −1,131		
Mean age at removal (in years)	7.06	8.02	5.67	7.03	7.46	$F = 225.68$ $p = .001$	$\eta^2 = .023$
Number of prior placements	2.70	2.95	2.64	2.95	2.68	$F = 1915.87$ $p = .000$	$\eta^2 = .001$

Note: $N = 28{,}978$. AOD = alcohol or other drug.
[a]$N = 28{,}978$. [b]$n = 1{,}713$. [c]$n = 6{,}882$. [d]$n = 1{,}104$. [e]$n = 19{,}279$.

medium, and large values are .01 = small, .06 = medium, and .14 = large. For the w statistic they are .10 = small, .30 = medium, and .50 = large.

Using these criteria, between-group differences were only considered to be significant if *both* the p value ($p < .002$) and the effect size statistic ($w > .10$; $\eta^2 > .01$) criteria were met. Of the 22 characteristics evaluated, 9 were not significant: gender, Hispanic ethnicity, African American ethnicity, Caucasian ethnicity, presence of medical or clinical diagnosis, removal for abandonment, removal for neglect, and number of prior placements.

The 13 characteristics in which there were significant differences among the four groups are as follows: Native American ethnicity, removal for physical abuse, removal for sexual abuse, removal for parent incarceration, removal for inadequate housing, number of removal reasons (other than AOD), eligibility for Title IVA, receipt of child support, receipt of Title XIX Medicaid, receipt of SSI or Social Security, no receipt of financial assistance, family structure, and age of the child at removal.

Native Americans were much more likely to be represented in the alcohol-only group (44%) than they were in any other group. Physical abuse as a removal reason ranged from 11% in the drug-only group to 30% in the neither AOD group. Sexual abuse as a removal reason ranged from 4% in the drug-only group to 12% in the neither AOD group. Parent incarceration as a reason for removal was highest in the alcohol-only group (18%) and was much lower (6%) in the neither AOD group. Inadequate housing as a removal reason was highest in the both AOD group (31%) and lowest in the neither AOD group (13%). The variables in the data set used to indicate economic conditions that were significant are likely to have some crossover among the variables. That is, eligibility and receipt of Title IVA, Title XIX Medicaid, and SSI or Social Security are interrelated in their qualifications for receipt, and thus are likely to measure similar economic conditions. Title XIX Medicaid receipt ranged from 79% of the both AOD group to 67% of the neither AOD group. Receipt of child support occurred most frequently (28%) in the both AOD group and least frequently (21%) in the neither AOD group. Those families receiving no assistance were most highly represented in the drug-only group (26%) and least likely to fall into the alcohol-only group (19%). Differences among the groups also existed in the area of family structure. Single-female-headed households represented the largest percentage type of family grouping in all of the categories, followed by married couples. Families with drug involvement, either drug-only or both AOD, were more likely to be unmarried or divorced couples.

AOD and Time to Reunification

Output generated from survival analysis allows the reader several ways to visually evaluate differences in time to reunification between groups. The

first is through interpretation of a life table, which shows the cumulative percentage of cases that have reunified by a specified time interval. Information from this life table is presented as Table 2, where the reader can see that those children who were removed for neither AOD reasons were most likely to reunify, and 64% of these families had reunified at the 18-month time frame. Over half (52%) were reunified within 9 months of placement. The alcohol-only group was next highest in reunification rates at the 18-month time frame, with 60% of this group reunifying within that period. Half of this group had reunified between 9 and 12 months. Having any drug involvement was associated with slower reunification rates and, at the 18-month benchmark, only 54% of the both AOD group and 52% of the drug-only group had reunified. The median number of days to reunification for the four groups was 353, 468, 456, and 245 for the alcohol-only, drug-only, AOD, and neither AOD groups, respectively.

The survival chart shown in Figure 1 provides a second way to view between-group differences with respect to reunification time. The survival chart plots the cumulative proportion of cases reunified at specific points in time. In this case, time is measured by time in placement in days.

The findings presented in Figure 1 are the same as those presented in Table 2. The reader can see by looking at the graph that the neither AOD category of removal reason (line with squares) had a higher proportion of cases reunified than any other group at all points in time. The next highest group with respect to reunification rates was the alcohol-only group (line with triangles). The both AOD and drug-only groups were very similar in reunification rates and patterns overall (54% [line with circles] and 52%, respectively). Overall, differences in time to reunification among the four

TABLE 2 Percent Reaching Reunification by Time Intervals

	% reaching reunification			
Time period	Alcohol only[a] (%)	Drug only[b] (%)	Both AOD[c] (%)	Neither AOD[d] (%)
1 month	16	12	10	26
2 months	23	16	16	32
3 months	27	20	20	37
4 months	30	23	26	40
5 months	32	27	28	43
6 months	34	29	31	45
9 months	44	38	39	52
12 months	51	43	43	57
15 months	56	50	49	61
18 months	60	52	54	64

Note: AOD = alcohol or other drug.
[a] $n = 1{,}713$. [b] $n = 6{,}882$. [c] $n = 1{,}104$. [d] $n = 19{,}279$.

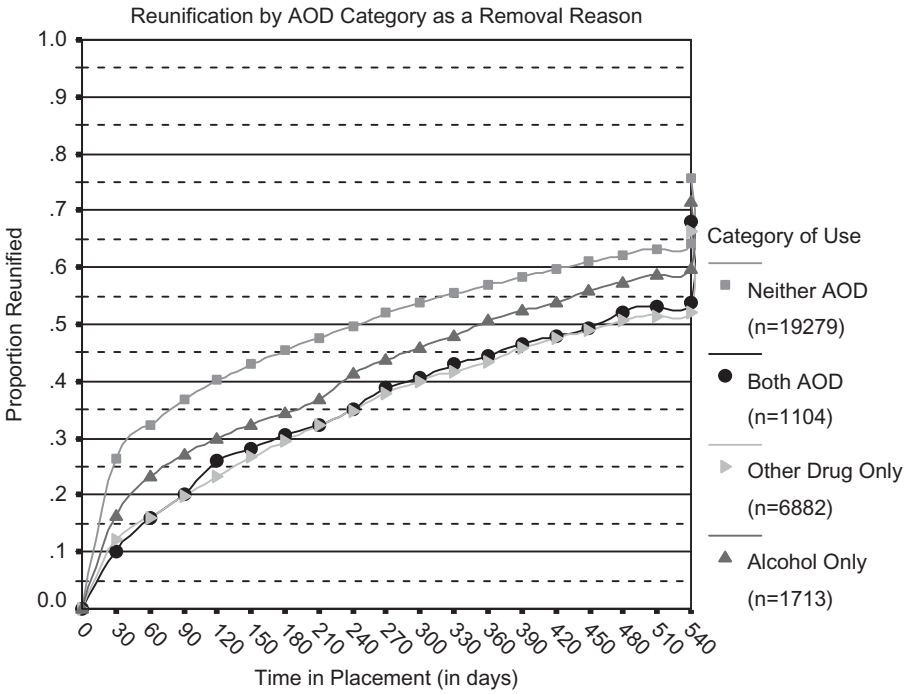

FIGURE 1 Reunification by alcohol or other drug (AOD) category as a removal reason.

groups were significant. The neither AOD group was significantly different from the other three groups, and the alcohol-only group was different from the groups that included any drug involvement. Pairwise comparisons between the groups show that there are significant differences among all of the groups with one exception: the both AOD group compared to the drug-only group (Wilcoxen Gehan = .144, $df = 1$, $p = .7040$).

Due to the fact that bivariate analysis revealed statistical and (albeit weak) substantive differences between groups in 13 of the 22 characteristics mentioned earlier, a Cox regression analysis was conducted to compare reunification while controlling for the 13 characteristics that met the researcher's criteria for substantive and statistical significance ($p < .05$ and $w > .10$ or $\eta^2 > .01$). The differences in reunification patterns remained significant after controlling for these covariates.

DISCUSSION

The impact of parental substance use (whether direct or through mediating relationships) on permanency outcomes is established in the literature. This study utilized analyses that controlled for a number of economic, family

structure, and removal reasons. Those children who were removed from homes as a result of parental AOD abuse experienced longer lengths of stay in foster care than children removed for non-substance-abuse reasons.

However, this analysis explored the extent to which outcomes might be differentiated on the basis of the type of parental substance misuse (alcohol or drug only, polysubstance use, or no use). Differentiating users on the basis of their substance use resulted in the identification of significant differences in time to reunification. These differences remained even when controlling for socioeconomic and demographic variables that have been demonstrated to be associated with reunification outcomes. Parents whose children were removed due to parental other drug only abuse, or both AOD use, waited more than 100 days longer to reunification than parents whose alcohol use precipitated a removal and 200 days longer than parents who had their children removed for reasons other than AOD use. The finding that any form of other drug involvement led to longer times to reunification is noteworthy, and further research should be done to explore underlying factors contributing to this occurrence. We suspect that there are a variety of reasons for this, such as the use of urine testing for the presence of illicit substances, the underlying assumption that alcohol is less damaging to children than illicit drugs, and various policies and practices that have influenced how those with illicit drug involvement are viewed in the context of child welfare.

Exploring differences based on a parent's pattern of substance use is a somewhat unique approach. Several studies of foster care seeking to evaluate the influence of parental substance use have classified cases for analysis as either substance involved or not (CASA, 1998; Smith, 2003). The rationale for this grouping might lie in studies of prevalence, which suggest that substance abusers frequently combine AOD as part of their overall usage pattern (CASA, 1998; HHS, 1999; Substance Abuse and Mental Health Services Administration, 2003). HHS (1999) reported "Both the abuse of alcohol and the abuse of illicit drugs are linked to child maltreatment. In many families, both alcohol and illicit drugs are abused simultaneously, making the two problems indistinguishable" (chap. 4, para. 6). Regardless of the dependent variable, studies do tend to find that families with a substance-involved parent have poorer outcomes. However, such an approach makes an implicit assumption that more discrete distinctions do not contribute to understanding the impact of AOD misuse on foster care outcomes.

Yet after disaggregating the definition of parental AOD use, differences were found in outcomes based on the type of substance used that would have otherwise been obscured by the traditional approach. Despite a tendency among child welfare researchers to group substance abusers into a single category, our data suggest that the type of substance was a factor in the decision to facilitate reconciliation.

This effort to explore differential impacts was hampered by the nature of our limited data on substance use. It is possible that in our data multiple substance use might have served as a proxy for addiction severity or might have been representative of a distinct subtype. Polysubstance users in this study had the highest number of cited removal categories. This group of parents was also more likely to be identified as providing inadequate housing and to be cited for neglect. Such a finding might be indicative of a general lack of functioning on the part of the parent and could be construed as evidence of the impact of addiction on a number of the parent's life domains. Despite evidence of differences in outcomes by addiction subtype, addiction practitioners would correctly argue that substance misuse treatment options in the community rarely differentiate users on the basis of their drug of abuse. However, the data in this study suggest that type of substance use predicted different child welfare outcomes. Taken with the findings in the addiction literature on the impact of subtypes, this would seem to suggest that future research should explore the potential differential effect of addiction typology on child welfare outcomes.

The relationship between addiction and child welfare is a complex one. There is some indication that parenting itself might be associated with an increase in addiction severity. A recent study found that women with a substance misuse disorder who were parenting had fewer early treatment contacts than nonparenting women and tended to have a more serious problem (McMahon, Winkel, Suchman, & Luthar, 2002). In addition, placement types appear to be influenced by substance abuse. Beeman, Kim, and Bullerdick (2000) found parental substance abuse was associated with an increased likelihood to be placed in kinship rather than nonkinship foster care, which is in turn associated with longer stays in care (Courtney, 1994; Gleeson & Hairston, 1999; Scannapieco & Hegar, 1995; Thomlison et al., 1996). Further research that disentangles substance use and child welfare services will have to create finer distinctions among substance users.

As Smith (2003) noted, the tendency to collapse all types of addiction into one category could be at least partially a consequence of employing administrative data sets that were not designed to allow finer distinctions in either the type or severity of a parent's problem. Such limitations existed in the data presented here. However, it is likely that this practice of collapsing cases into substance involved versus no involvement extends beyond data limitations. This practice in the literature is too prevalent to attribute it solely to data.

It is likely that greater differences among substance users were masked by our inability to differentiate substance type. For example, different outcomes might be obtained for individuals who are opioid versus methamphetamine users, or as a result of the lifestyle differences attendant with each substance of abuse. Further, as an administrative data set, the definition of addiction problem was limited to a decision made by a case worker.

There might have been considerable variability depending on a worker's knowledge of addictions and his or her willingness to endorse that category as a removal reason. Ideally, future research will include detailed data about substance use, treatment history, and addiction severity. However, regardless of their limitations, these data suggest that not just the presence but the nature of the substance misuse could be related to outcomes for children and their families.

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